Dhet ,saqa,qcto ,scope teach learner

DHET , TVET /
college nated exam plan college
-Teach and learning plan 2022./2023
Lecture , dhet an St peace college internal external learner
Portofilio textbook.
Student learner name : tshingombe tshitadi
Lecture learner name
Re mark :

- Part 1 framework and conceptual underpinning of plan.

1. Purpose of the plan:

Planning examination national trade examination term and Semester in college framework ,module circular Assessment evaluation test 1,2exercise book learning faculties diploma national coverage time table allocation studies engineering electrical and engineering college peer assessment, self assessment and group assignment sub completed , in college and institute police engineering institute , qualifications implementation n diplomat saga frame work log activities and councils trade test practical .
- Assignment class work internal assessment and external Assessment college nated technical vocational and technical College, training college, coverage internal assessment. Problem based institutes engineering and institutes police Portfolio evidence.
Coverage engineering police and traffic police engineering, subject.lecuture teach and learner.

2.Aim of plan : vision college and mission college and institutes examination subject

,basic advanced research and filling Engineering electrical mission ,planning school disciplinary area circular assessment police department
Input output policy orientation guideline learner college must design engineer, and analyze discovery job vision duet examination policy, and saga policy must meet. Criteria examination planning circular.

3. Objective of the plant: the exams national national trade department and internal external examiner assignment objectivity learner to qualify and learner the end of examination should be able to correct to implement to label to retain and restitution faculties any criteria to improve to take measurements in different ways of engineering electrical.

4.Conceptual underpinning of plan
Lecture and learner planning course class model design, module, and week completed exercise book. time allocation:
Framework regulatory. Engineering studies business Engineering location

5. Underpinning philosophy for delivery of quality teaches On and learning in TVET college.

Teaching.: Report self sat and Pet assessment St peace college internal external term was 3 month qualify Engineering studies business diplomat internal diplomat was record report certificate years, completed scale internal test class work homework record years assessment completed filing Portfolio evidence topics coverage lecture note and learner self assessment and peer assessment critical objectivity learner delivery, lecture annual report principal and rector at examination external. Statement of results for registration attendance regularity or irregularities learner report process learner theory experimental

and practical for n diplomat studies business engineering n 1,2,3,4,5,6 years lecture and professor doctoral work textbook and class work reading and professional orientation vocational examination trade subjects and Engineering electrical subjects , College St peace policy guidelines for Poe s works years memorandum exam.
.-**6 Key delivery areas**: in the plan.
Statement and certificate coverage compare marks years college and institutes and test class work40%, 60% exam statement criteria plan module 3 month Engineering electrical subjects research.

-7 the embededness of the teaching and learning plan in college strategy and operational:, research in college and institutes focused examine evaluation was undercover lecture weekend and learner weekend,
-8 **Implementation and monitoring of the teaching and learning plan topic, trade engineering national work research Assessment completed year's m**ethodology criteria research textbook learner.
-9 reviews and adaptation of the plan in successive, the planning submitted on internal and external sat learner and teacher nated ,seta engineering faculty St peace College completed time table planning, completed
Time table orientation principal: circular Assessment evaluation design engineering electrical faculty engineering time table learner policing and college operational time table period movement time morning to afternoon daily weekly move job circular years design development system, subject engineering electrical and information to. Business Engineering. to national trade , subject reports

Orientation
10.Addendum not completed response :

-**College: St peace college and institutes Affric police.**
-completed by : tshingombe tshitadi
- designation:

-Section /output planned activity//report///corrective measure//// targeted date completed…

Section	output planned activity	//report	///corrective measure	//// targeted date completed…	

--sect: work placement, student and lecturer.

-Plane g output , activities/verification minimum//evidence///responsible office design////activity
output completed/////activities output not completed ///////target date for completion

Plane g output	activities	verification minimum	evidence	responsible office design	output completed	activities output not completed

-Program in renewable energy offer/enrollment programmation
- College WP student adhere // update college policy.
- process in place network identify industry, action plan ,strategy plan

e

2.purpose:

.QCTO: Occupational qualifications skill programmed, development report required qualifications documents final verification meeting.

1. Qcto approved application for which qualifications.
-Curriculum template, CV report 10 days after CV finalization.
-scoping report template compile 10 working days after the meeting...
- St peace college full time class study practic,national certificate n1,2,3 any content mathematics electrotech,logic industrial study career field engineer electricity electronics and electromagnetic Engineering dynamic field engineer responsible for generations transfers and conversion of electric power these after engineering are demanding posit industrial , ,,qualification to equipment yourself basic electric to ,star CCTV business use CCTV,camera, monitor fixe indoor outdoor ,,

- design planning, research advanced field, undergo planning system skill planning system skill planner next, development skills components, science natural mathematics. Chemistry device protection components, ensuring maintence. Are components, discovery skill, idea improve, inspect find fault.

.**1... Trade test QCTO...saqa**

criteria measure the power of learning trademarks of Education testing services;

- prepare for criteria Assessment test: cognitive exam skill test personality assessment job test prep... discovery practical question ,score report,full explanation, review amount .. Employment for learning and teach lecture test service, test design...college business class work.

-engineering electrical aptitude 30- minute test designed ,criteria skill test ,test criteria exam consist question marks typing 1 minute test measure trade theory electric ,mathematics, Engineering science,, panel control wire .test installation item drawing electrical .

Minute...

- prepare criteria test :

time table anted

- Trade mark holder property: ....St peace college workshop class works...

-Licensed electrician' s Assessment

Apprenticeship. Passing assessment category(y(.LEA) 15 minutes

-liken seed electrician's theory. (LET)...

-the licensed electrician practice (LEP)

Practical test sleet wiring a meter box and switchboard men system test identify.

- Comment on Licensed. Week basic licensed , week number reading comprehension test , numerical reasoning test spatial science test.

- Trade apprenticeship aptitude test, time test, questions, pass score .100marks,
- Iron works elevator industrial...
- mathematics problem reason give day work produce,spacial ,,
- Mechanical reason problem, tools electric circuit point, point, physic question force,
- company electrical trade qualify question theory apprenticeship, class book electrical theory DC ,AC voltage converter cycle ,motor efficiency symptoms, phase ,Val apparent power current calculation properties operating , electronics operating principle test for Dios , diode rating replacement value ,
- Construction soldering connection, power transform...
- trade o ejective install troubleshooting cabling communication,

-manufacture companies :

Site ,plan ...

- Customer date completed.
- determiner later and install and tear patients care system installing conduit component and verify, operational system ,accord install and ,test security system test selected operating measure .. outcome trade engineering

-test anted Assessment required task ,step ,input equality operational basic advanced plant mathematics diffential derivation fundamental theories low ,,

Operational linearity system equation system linear process force ,limited , different fabric force , ,,linear AC,DC, semi

Code trade.

QCTO:

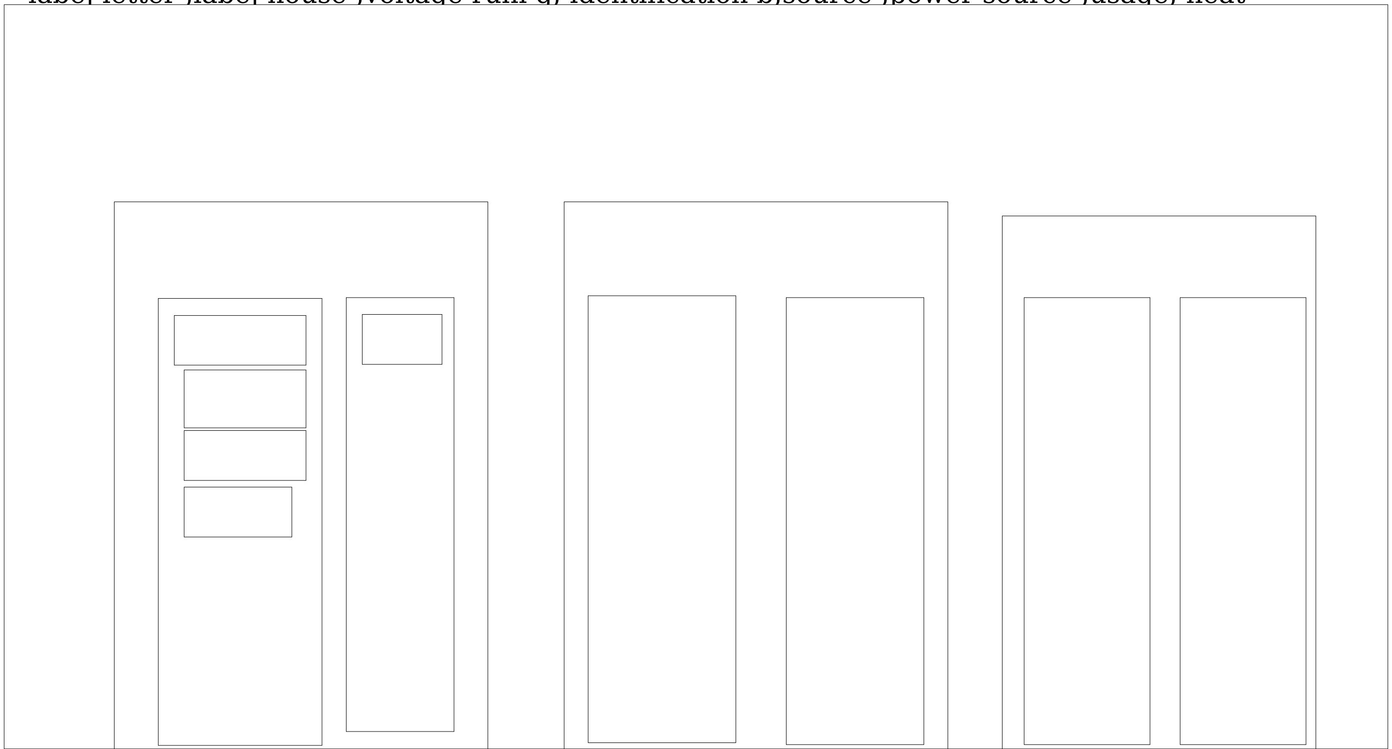
3.Purpose: of course daily course tender provider service require trade ,skill report

,phase ,1,2,3 trade test readiness close report . weekend attandat.
-tender number ....

1 .module / code // module object/// code criteria.
- inducty saft hand tools /recall application man power / relevant coulor marking correct sabs /// recall the operation diffet type module subject correct .
Conductor,joint conductor ,crimoingsoldering prepare,soldering fault find control panekcontact,
,Correct test instrumr, db fuse AC motor control short circuit ,single phase ,mecanicak fault ,fluorescent installation ,phase squirei motor dolautitransfi , commission transmission, transmission generation,measure,
Electronic compont resistor electrolytic diode ceramic diode transistor thyristor triac ,stable vibratory wave average , correct manufacture,
- chain block shockl max works not exceed , // correct cable gears relate years certificate trade clear time frame , training plan..
- company theoretical mathematics subject certiy,module check all settings

4- purpose :
and scope:
saqa , qualifications implentation , statement submitted, statement of work experience, I'd transcription meeting 71638, primary status registration saqa Assessment 0912 saqa instuty ,30-39 , assessment policy IE099-IEOO, regulation internal saqa decision advance intermediate phase teach , ... agreement ..
Training reg ,com 182609001 seta
Dhet exam id 210002023812, I'd 2004007064381,, ..
Assessor award degree diplomay number not meet and institut award 202303115021 submission numbers,
, N diplome engineering statement
Of work , saqa I'd 90674, NQF level 6, 360 ,saqa learning 67043, .instruction
. statement .
N1,saqa I'd 67109,n 2 saqa I'd 67375, saqa I'd 67491,
- evaluation asssessment
90674: national n diplomat engineering..
1. Qns .Where appropriate applying lubricant correctly to assembly in accordance with specifications and standard operayprocedure...
Required , where appropriate applying packing material in accordance with specifications standard operating procedures, ,inspection final ,assembly conformance , where appropriate returning final assembly to use , diagnose and repair analogue equipment , obtaining and following relevant circuit diagram Manuel schematic ,maintenance record ,locating diagnostic built fault, obtained code interpretation documents,tuning test functionalite and recording fault and equipment , checking electronics equipment assembly,component connection ,

Removing and replacing repairing components from electronic , recording test understanding on electronics , isolating electronics assembly from power adjusting , calibrating electronics equipment ,returning to service testing to specification , returning to service and test to specification the repairs electronic equipment using language and literacy provide, using langy skill , equipment fault find ,reproducting symptoms and verify g ,maintain see ice digital electronics ,look for evidence relevant circuit diagram Manuel schematics maintenance supplielocati g record build , maintence error code interpretation documents running test function ,checking removing and replacing components,, interpretation technical drawing looking evidence checking the drawing againg ,procedure interpreting information drawing writing documents checking clarifying , understaking numerical operation geometry calculation ,terminal xonecct ,check material connection and regulatority requirement ,adjusting and fixing wiring, marking,rigging labelling connection , undertaking testing connection for conformance ,component test AC 15000 volt ..
Marking component dissembling , settings up appropriate test and calibration equipment, setting the controller mode system , completed report commission the control interpretation information ,,
-1.1 ans..How to apply for job research hiring compagnies trade nated to qualified workshop and to council lab workshop school experience time table counsulta,subject reports ready resumes submitted job oersonek..
- basic in Quality inspection check variable appears understand quality experience.
Trade ..
Manufacture inspection , pulling random ,checking product Gain ,verify packing required,shipper packing check point dimension shopper ,check instruction measure chipper gross gives value ,measure cartoon gross weight and compare , shipper material layer sealing card singy, critical defect fail inspection ,,
- maintain repaired electronics planned maintain scheduled , multimeter ,resistor inductor components testing using ,soldering technical basic , circuit board fault finding finding electronics instrument and system mechanic,, .
-width of panel size terminal side switch ,size for component depth ..
- responsible : original documents it document review obtained number prior to Dec routine assure that document sraft DC number checking log documents entering ,,
- material drawing afoi g check appropriate charts list applicable calculate formulr , installation drawing provide how compagny position , Assem ly drawing explosed diagram model schematic ,machine drawing ,machine shop drawing ,expertise order to create machine ..
- labalked standard ,markers line ,colouring option ,labali g very small,wath belongh.
Electric Las "choosing quality conduit heath shrink labelling self printed ,maintain diameter labej letter ,labej house ,voltage runi g, identification b,source ,power source ,usage, heat



DHET…

5.Purpose:

Completed time table implentation coverage Summative regularity, subject n1, n6, asservissemnt task assignment homework, marks allocation. 310x 6 , module , content module scaling. 100 marks , student program, asssessment tools marking memorandum , Isat.icass continued assessment ,
-Body quality insurance re certificate rating low,
..outcom scotiss qualifications value Assessment Portofilio I Engineering low ,teacher lecture judging evidence ,subject Quality Assurance, the completed solutions, recorded programs assign short ,re- assessment develop Engineering , analyse Probly, designing a straight problem, simulating or constructing ,

candidate class	**part question**	**operationel skill**	**reasoning skill total point achieve**		

- candidate class /,part question ,//operationel skill/// reasoning skill total point achieve,
Mandatory skill development course analyse staring , ,d..
Topics ,nated levej subject module..
- applyy math skill to manupulr low and working skill , cLccul ,
Applied Engineering electric skill analyse .. administration information.
, description of charge, authority ,
Conducting the assessment: high judging evidence internally marked and verified , re -assesment unit assesment ..
-Question / point of process or accuracy //expected responses
- checks length correct conclusion/ evidence correct reason other draw..-
- / evidence of appropriate add sub correct ,
Correct answer..
-eviden e module total examin ER composite ,overall strategy square ..

- totalprocessand accuracy point for test total reasoning....
-isat integrity icass assessment subject .
Conceptual question problem hydro electric generator concept assuming unit, conversion wath current ,
- integrated concept ligth trading concept cost heater , power

Dhet...principle and practice purpose value work component engineering national ncv n engineering,scopet integrity engineering electrical level 4, and n6 saqa n diplomat examinaty.
- Scope of...isat

-Topic mark engineering trade anted and nave.
Produce, operate component driller.
- sub activities task ,time framework time allocation ,

1 manufacture size weight scale power specific, / time.
Total.
- resource requirements

.
Tools assessment, material...
.

- topic operate and

- challenge n diploma duet vs. saga diplomat vs. Vs. anted test council trade reasoning teach learners theory practice learning value assessment.

6.Circulum: value add assessment ,is or is not subject to changed, Saqa engineering...resoningvs counct vs NC's level electrical infrastructure dhet principal theory practical vs ,NC's matric teach learner assessment execise book technology electric vs, instituts engineering electrical,,, drawing Diplomat math engineering science drawing evaluation trade theory electrical engineering ,step dismental, step dimension works vs in AC machine theori instruction operational requirements algebraic, step qualifications rewinder vs council trade code ,trade minimum ,test resonement low ,test , occupation trade vs quality insurance Engineering , AC ,DC machine ,topic foundation, system ent level AC, vs NC's matric seignoy technical princy AC ,logic circuit math investigation quadratic exsry , input lecture output vs xircuy, trade scht vs code tender instruct,vs Engineering ,code trade minimum, knki manufacture batterycorrect , constructeur installaty circuits grade safety technologie ,nsaaa step work daily acti understaking material package mainty , assembly panel, labelling battery AC , DC, cabling soldering control competu compagy phase ,
- nated base Norton the venin network, resistance parole series start parallel start delta reseat ,advanced field ,dial Deer distributysystem substation vs basic sub station trade VCC,ICC advance physics   chemistry engineering ..

Memorise ,torrseafy advai field but work week basic field electrical under going research ,
- scope diplot vs advance field dhet machine transistay curixuy phase policy mathematic asic field d,

- component job institutor low fundamental AC research AC research ,package low degree ,saqa n6,nqf7,78, degree technoy electrical outcom news , understand experience component didacy AC, DC,psychometric pedagic ,
- evaluation saqa memorise evaluation prep trade test vs. monorise vs memorendum test test circy literay,lecty learning ,Sawa meet reat lecture nated nated ,vs teach learner instity fundamental working compagny,
Engineering : scope work project.
Irregularite semesy policing Poe's award years self meet achieve textbook n submitted, 2000 award policy submitted papper for completed, previous papper discount.
-completed textbook information after achieve DC machine Levi transit advance systeme completed , resposable ,exam holiday memo vs saqa vs is chat to win court , Engineering city power tender to Portofilio low rules , Portofilio city power experimental job,Shoprite experience but sales documy wallets account treasury ..
- memorise nated instructywas to doing to rwiten ast no study buy opery theory , ciproc ,sars nated council business cooperation work nated lectt copyright and visit studi labour pliay permit to entry schot busit. Lose colrith process casebook ,sars calender busiys hool college in case with dhet deal .memorise markets textbook, memorise sale book sars commission property intellectual de register dhet high educare permit .policy exam national copyrith re mark book bibliogray reference number to mutch years ....
- proficy colrith educare education system note book didacty lesson plan course inventories research methods model lesson plan , business markt businey comments book note order project book, module week was not bring market scaling reproduction project learner

6.1. **Assessment coverage DHET ,saqa council,,**
Subjects :project assessment.. and career mentoring research coverage faculties completed module,
- project title : engineering national trade learner and lecture   technical vocational department higher education examination national and qualification Framework national ,council trade and council engineering trade test question papper project modules explanation low rules exercise book, completed outcom project society.
.education construction and project bridge keeping stability journal thesis stability civil engineering,and mechanical engineering and electrical infractute
- psychopedagogie engineering civil outcom technologie ergonomic, ,
1.Project construction and project management,investigate wat key national road conduct study feasibility assess viability upgrading existing route and the construction of new or by pass route , investigation found freight, municipality area . Light
1.project description:
Extension from education n DHET Education to saqa council Education ways distance learning , infrastructure asset, a grade separated .
Strategies construction elimination abnormal educare loop ramp load , bridge .
Bridge Education,bridge substructure piled foundation abutumebt front Poste tensioned voided deck superstructure bulk ,design of layework make optimunmaterisj ,
- problem encounter and innovation,
- piling tender temporaries ,archeological ,
Pile cap, temporary deviations by pass, stop along , empower target,
- Project status: construct, chalkeny, inspection survey, safety educate.
-case study testing implications , to conduct to detail design in order a cuss road mining , accommodation up grade,
Client requirements, pavement,
Layout of trial section x,y lateral restraint ,increase nearing capacity creasing length of

shear tension verification geogridr static plate load testing falling weighting deflectimeter were used to verify the effect of geosynthetic ,
- present research: traditional geosynthetic reinforced weakness subgrade and Normally increase ,penotometer testing engineer later works,
Project description: resultat from,pressure depth,project progress, strain material n/ mm , anchor tension force , equivenlent rigidr , flexible baseplate the propose construction programme duration.
- cross section bridge structure, beam seat, concrete panel facing , reinforced,select backfill ,common ,
Extraction of durability subcontract yield stress, ultimate stress MPa ,bridge abutment ..
Framework bmodern labour construction public work program leading to critiques of infractuture sector expand public b,construction maintain,
Council nomination, project layout structure ,, ,
- project description: test site capture data km track Struct deflecty railway train whelk linear teanst steel , position track structure, resultat discussed.
3.dhet mentoring:
Outcom career saqa maq

..education career mine geotechnical agreement Agricole sectorial engineering mining qualification authority mining and minerals sector
. understaking electrical material mining qualification career mine workforce.
Mining sector , why choose career in mining minerals sector, ,
Career mining choose a career how to make a career choice ,
Critical cross Feld skill required mining sector , problem identification and evaluation, problem mathematics literacy , planning career in the mining and mineral sector , wath career suite life choosing qualification, occupational categories technician trade workers ,machines operayorx mainstream career , understand qualifications, artisan career option mining minerals , career,, professional career ,laetber paths career ,financig your studies,,gold platinum metals ,diamond,coaj,cement line, jeweller ,extract petroleum and gases,service incident other ..
Bridge catergor

- keep bridge indentification number carer opportunities occupation framework occupation level n qf , occupation categories ,1,2,3 elementaire worker, machine operator,technicia trade , manager profrssy, production

-
-

7.1 Purpose dhet : ,, Education input out put
Subject mining examination , safety health labour mining police. Outcom ,mining examinator national trade , explosion mine , discrimination mine .
Trade AC ,DC, mine machinery.

.7.2. **purpose nated career : bridge static stability briage movement phase periode frequency stable way phase to phase job Engineering** lecture transition phase
- psychomotor job analt functionalite rate class hrv constructy woru saw building task tools must up date collective ,function real word student function machine student rule input output the class function rules teacher created spread , gradient a vector function gradient if scalar f (x,y (arrange partyah, stability construction isostaique diagram force

structure hyperstaics beam ,regulation commissair,tools form stable trade nated engineering subject , assessment task build ,mark allocation ,content average , asservissemnt tools ,point balance framework structure stability..

- instability systeme development bridge statement periodic 3 month way key learner break time table semmester maintained up grade up date .

. Teaching plan daily underplani g phase foubda phase intermediate seignor, staff lecture ,junior seignor principal lecturer Engineering traine circulum vocational subject . Time table general signal linearized x (t). Control didactic process machine key learner input out put loop variable subject x = ,y = y (s(x) discretion signal temp , instant ,energy power time continue R+ 1 , jx ,power ,,

- transformer Fourier control didactic time table x t , r+ 2 dt , counter measure frequency content sum , property x(Q) + ,,property lineaire time table input output , real time table ,,derivation note time table dx = St , TF (St) ,, integra, impulsion diract time table uniform impulsion retenttion xt expent time table ,, complexity time table loop ,
- transformer Fourier TD ✓ (x,y) , ,filtre lineare box lineare circuit transfer input output (s) , x (t) ..
- regime transitaire learner phase and teach system linear u (t) system education stable sponement stat equilibrium means system input out put loop Kirchoff constants transmittance , signal course modulation module week output modules course type trade phase -test readiness

b.test scale maps distance learning corresponding learner concept distance learning graphic scaling size generating km learner distance , scale weigh learner grade real m square space scal factor point ,accuracy mesure survey , degrees latitu ,geodesie projection cartographic board coniaye,, isometric learner plan circulum ,latitude circulum implentation,perimeter circulum schema sequence circulum phase , transformation coordinator geographic circulum policy real engineering, longitudinal meridian ,exposant projection,constant projection p,coirdinat projection examination circuit dhet vs qctovs saqa scale ..

- probably..

-movement phase vibration force oscillator learner, input out

-Low rules of conservation of energy learner circulum policy, engineering move mechanical kinematic energybkEvwork done conservation force ,step determiner system Education , potential conservation input out put teacher , kE1+PEi= kEf+PEf ,step 4 , step phenomen bbeam energy breag,,

Efficient learner ,useful energy or work output ,total energy input, transformer per phase energy phase learner,,

Activity learner device home work scall effici, process kinetic calculate gravi learning linear mecanic,

Frequency constant capacity static displaced,resonance frequency learner materit Curie ,Piezo electric voltage,,

- robot dynamics kinematic control learning teach plant scare , position coordination lineare , circulum velocities Cartesian circulum move phase learn, rotation matrics activities passive rotation ,elementaire phase reprensatat, generality task space classic , body acceleration effectuator ,x y,z, angle ..language machine education funct ,from matric mild learner process ...
- induction learner error resource machine educau..matrix time table line colonel movement weekend months build key ..form work job career .form saqa form dhet ,for qcto language matrices movt 2week ,3 month ,12. ,2 years qualifications experience language matrices deployment years compared , circulum implentation to the college and instituts form moved record exam internal external time typiste record archfile statement certificate,and diploma..fabric system.

8.1 DHET, vs seta merseta sasseta training
Accreditation training,

8.2 Purpose: manufacture relate theory practical, components equipment,
- trade ton max,chain load diameter.
- trade ; code objectivity criteria.
-electrical testing instruments, safety and faulted find ,system multimeter insulator leakage tester phase rotation tester.
1.correct test reading all safety rules ,armored , make standard armoured cable up 16 mm sq core volt glandess ferrules and lugs use to manufacture specifications ,join to mechanical CA2, indentification rating current voltbCA4 terminal PVC cable up to 1209 entry into cable end viz using mechanical compression methode correct according sabs 0142,
- installation of machinery : install and level compressor motor a machine part on a fabricated base ,,
All safety aspect adhered to ,no damages to equipment,level withug ,,
Install commercial refrigeration system capacity 19kw refrigerator include pipe work according drawing specific ,single phase induction motor ,phase squirrels cage induction ,rotation correct ,correct ,,trade fault fault fa control find , control panel and motor control all safety aspect adhered sabs , correct test ..
Vs .
1.2. Circulum extra subject electrical energy , industrial electrical ,electronic Engineering trade theory vs practical
Module energy renewable.
Electrotech.
-thermoelectrical cooling , Peltier low relate manufacture.
Cooling air conditioning modules, technical controller product , coefficient of performance,thermal design, DC current vs technical power supply type,
- recommandation of the manufacturer , comparison of two technical controllers ,,linear vs amps ,,I/ max derive dt ,25 k ,0- 0,33 , I/IMAX should middle , 0,33 -0,66 x IMAX ,, coefficient of performance (cop) ,, .. performance vs current, maximum temperature,warm ,cold ,is increased , thermal design,is crucial allowed ,
-thermal design , performance of system, reducing optimise hear sink fan ,power losses isolates area , Peltier elements,,
Dissipation warm side ,Qg=QC+pel.
- I= 30 IMAX ..
-heat pumped vs current:,,I= 0,3 ,, I max ,AC)Qmax , ,,thermoelectric thermocontact cook eratiin DC vs pwrt , maintence ,
- recommand manufactt ,limity current ripple regulatit output ,
- ferrotec , 19 Perce, engineering controller DC curry case manufacture,,power compare..
- Comparasuon of two controller. , Stability to work.
- design process: thermoelectric, estimate heat load interactive test parameter is amount of heat absorption, power dissipation radiation , conversion conductive, dynamic (dQ/St load transfer ,choose Peltier elements ,,

-electrostaric ,electrodynamic, electromagnetic physic industrial electric engineering physics
Heat rejected vs current control play heath thermal hear sink estimate aths ,,
Performance vs current I/ max St heat pump,, heat pump vs current , Amax = Qc /0,25.
Temperature sensor ,object high precision ,power supply requirements.datasheet control information input

9.1. Dhet vs ,seta merseta sasseta,vs saqa,
9.2. Purpose: all the safety and policy
Defense civil and military safety outcom assessment.
Manufacture relate theory practice , engineering learning
- purpose STD 1285,, fuse holders ligthning arrester , electrostatic discy.
Scop commercial and military electronic devices required no stated merseta seta no status to section mandatory , gov gazette etc EIC sabs correct.
- application documents: sabs iec ,,general requirements sabs EIC mil norm ,
-D.3 functionalite marking :mil,sabs ,EIC sabs ,
- terminal identification: acquisition documents identify together functionalite line,load instrument ,
- other marking electrical diagram caution marking caution marking alignment marks, assembly instructions and other marking ,
- electrostatic protector confirm method where size limitations not accommodate all of the marking , requirements order of ,shall apply,
-identifying number sabs sans ,EIC in mil safety code trade CO1, ,, mil
-manufacture source code ,merseta mil ,name trademarks merseta sasseta seta. Mil STD , current rating when applicable ,date code when applicable , other rating and marking ,code method color coding telephone code , merseta colori,,
-Dc breakdown voltage shall be xolor coded ,dot accordance method , except that color circuit breaker,line a,b,c load a,b,c marked ,,main terminal break shall be marked vertical, accomodation letter , precedes , polarity thermo static switch FSC 5939 mil rotary sequence is counter clockwise visibility , acquisition ,open frame construction switch marked construct color pressed moldings , punch identification,
-toggle switches : toggle switch terminal marked in accordance, termination identification, identification push , contact arrangements symbol and terminal marking, single form normal open ,close ,,item specifical space contract number date serial code merseta ,,
- used unit pack bag and ,procuring activities physical space is not available mark mil used,
- designator for part assemblies : designation marking process to IEEE marked ,, sabs sans EIC mil
Reprocurement: contract contract , used assignment.
Details required.
Electron tubes: type designation or number type marking sab, ,labej mounted merseta seta sabs visible ,mil
- electrical electronics part printed wiring board marking mil STD 1285,,
-name plate data ,sabs article mil data confirming applied .. sasseta merseta sabs correct
- mil STD intended use ,issue of discuss,marking for shipping sabs, serial number sabs sabs merseta code mil ,air transportablr item , reprocurement sabs mil , subject term key listing ,name and caution plate, caution plate sabs merseta seta sasseta , mil STD , priority of identification information Assessment ,marking process,,
-drawing engineering code gage code format size letter mil sabs number system ,
- design activity gage code drawing numb army tank automatics tank wareent number sabs ,size cage code scale ,unit ,
- pin number length contractor manufacture item not change original,defense logistics battle explanation ,record accurate number number duplicate , responsabily Engineering transferring design from design to another ,sabs sasseta seta add cage original identity , maintain design activity activities b, manufacture,pin item meet ,tabulation assembly installation ,source control delineat ,,

- design synthesis : sabs merseta. , Mil

8.2 .Dhet ,vs sasseta seta accreditation, Assessment.
-mil STD , safety security training, merseta required.gov gazette,
Applicable ,: document , general engineering n studies electrical engineering.business studies,
Government documents , specifications other government drawing engineering and Engineering science subject safe , order of priceden , definition commercial and government entities gage shelf , contains, design activity engineering electrical , documents ,, functionalite marking engineering electrical joint electronics type designation system engineering electrical subject n ,manufacture identification engineering n diploma , nati supply code for manufacture n engineering electrical trade merseta ,, nomenclature,order of procedt, part identifying number pin engineering, procedure instruction manufacture number ,set select drawing general requirements, government names join electronic type design system nomenclature ,army nomenclature binspection stamp ,special characters contractor entity gage identify marker equipment, except to table ,unique item small item ,limited multiple item , reference design government reprocurement, details required,type number and design,electron tube ,electronic printed wiring board name plate , marking battery circuit, marking labalk ,high voly notice , radioactive matery sabs merseta, ioning radiotion sabs , caution sabs , schematic wiring and cable sabs San IEC diagram , chassis identification, modification work numbers marksabs ,sensive electron device sabs IEC , sensive of marking ,general type number marking process ,wood sabs ,size labals sabs ,material radius corners mounting sabs ,spectral glass sabs IEC , opacity sabs EIC ,permanency durability sabs EIC , note usur did ,marking for , air transportable , .
-2..introduction system management,process , required analyt , functionalite analyy, verification, system engineering process, system and control breaker review trade studies ,modelling and simulation metric risk management.
Planning organising, system planing product and integrating system development,
-3 system engineering. Electrical teade
fundamental introduct , subject , application work experience, definition, facility ground system:
- power distriy system sabs EIC to mil , communication system , bonding shielding and grounding relatship sabs ei. ..mil grounding safety practice sabs , ligthning discharge fault protection noise sabs sans , summary of requirements, resistance required sabs San,resistance to earth sabs sans department defense SANDF communication electronics requirements, typical resistive environment effect,neasyof soil resistivity,one electrode , subsystem ground burier gride sabs,resistance properties ,simple isolated vertical ,fLt potential,, ligthning protection, phenomenon ligthning influence ,strike holder structure less protection flash ,conductor impedance effect,inductor impeteaeth resistance ,basic fault protection fault protect ..
Vs
Saqa engineering electrical learning,advany maintence low voltage fault find , batteries,low voltage inspect service maintence battery charger , designing a lone renewal energy systems, design solar pump trouble shoot PLC,completed certificate competence , demonstrate understanding process communication system,control electrical network a control centre,spray wash energised high voltage network, fault find repaired DC power machine,operate on high voltage network ,select up generator for renewable energy ,fault find repaired electric system winder installaty ,construction
Area 7,

Electrical infrastructure level 3 area ,-
-inspect record report condition medium voltat station appropriate,test maintain high voltage isolator ,earth system, transformer, equipment ,commissy terminate ,,install commission terminate medium voltage joint medium cable dcmachine,mainten voltage switch gear ,,fault find system conveyor install ,mining fault,construction disment,overhead,special area chemical , interpretation State, maintence busbar and chamber association equipment traction substation, 3 kV DC traction regeneration traction inspection record ,breaker ..
--Vs ncv vocational isat frame activity
construction electric . Learner
Practical theory electric principal ,introduct ..

dhet , diplomat engineering electrical,, electrotech, militaire over , defense award challenge Assessment meet defense,,
Electrotech , select power of electrical appliances to achieve set temperature,carry calculation ,convert mechanical energy to electrical energy. , determined the amount energy installation in termine kwh ,, determine cost installation AC ,cost incud , apply vasic magnetic theory, determine magnetic flux density for magnetic, interaction between magnetic field, AC lines of magnetic force ,flux MMF, interactive between current carrying Maxwell,non magnetic relative MMF ,motor left ,theory faults of switching,, determine energy stored,calculate length, principle, ,,compare diffentperiodi. Time form RMS value a stage,value maxitprak additional, explain singlt and three phase system comparison, voltage number calcutlind phase , demonstrate calcul diagram the operationel circuit, explain apply purely ,,explain effect having poorfactoe capacitor, AC penaltiecable size equipmt size current demand,running of induction motor on full load synchronouse static delta star , description transformer determine efficient no load
components ,transfotcore ,type AC air breather conservation buchils ,core lamination , emergency stop button warning caution ,,state installation procedt consider all safety precautions application non service generator set , consider all safety ground condition state ventilation noise define refueling access, in AC commission the sets preparation insulation plant proving test suplyis correct installed,all cable are secure and correctly connected,the sets correct out electric ,state earth , connection from non service generator set switch gear equipmt AC check load cable and interconnected,checj the earth operate non service,identify generator,applyloD in accordance with safe working check and adjust generator set running ,mainy voltage ,shut down generator, carry out after use check in accordance completed recomat, maintence non service generator set maintain principal procedure,apply all safety equipment,install non service distribution system,install distribution cables,install distribution units feeder pillar mcv,rcz ,install operate and test ligthning and power distribution system lapds, statement design,ensure correct placement fixumaterial task, ensure task is installed to line,ensure task requirements adherapply electrical standard,ensure compliance with and enforce all regulatoriiij, evaluation thee executive m e electrician task , implementation safe work ,,
Selected appropriate switch gear ,determiner capacity switch gear install diagram,manufacture local distrtpoinr , manufacture data protection,shirt circuit, diversity, maxi demand,connected load ,selected type wire identify system ,determine adequate capacity basic , protect

Dhet ,vs saqa labour mine ,
-Purpose:for plant engineering examination the theoretical section subject,theory practical, Electrical,mechanical,,safety and management ,accident prevention ,fire protection risk control , project management,project financial loss control ,
- electrical technology, DC current machine.motor generator ,efficient DC machine efficient of DC alternating single three phase circuit transfo, production of rotation magnetic, character synchronouse three phase inducttmoyor ,semi conductor ,electric lamp and illumination,electric power transmission,short circuit condition ,circuit breaker ,cable insulator overhead, power economic of power supply,maximum demand ,fault discrimination systemeteical fault ,illumination exploinsion equipment,,
- applied thermodynamics : air and gas compressor and blower,air motor refrigeration and property air condit,psycho entry ,steam generator ancillary ,heater balancing , balancing condensatir steam gas combustion heater transfer fuel transfer , simplestress, strain thin pressure vesell tension pression circular, close coiled shear force vending , temped ,strain second moment bendut shear foundation, fatigue mechanic,property,testing material twisting shaft property, reinforced Crete, conveyor wind plant ,elevator traction ,motion , displacement and acceleration,static dynamic ,belt and chain ,brake dynamic, toihead gear train lubrufian clutch cranes bearinghydrattransmissiin flow friction losses,material transmission pipe line ,Pelton wheel,flow in kaudnes, hydraulic machine ,mecanic measure air flow,dusting property, Commission safety maintenance condition.
- planing and commission of project maintence schema fire detection system accident investigation, testing and repair electric motor phasing and synchronous AC motor operating tandem fault discrimination electrical,hydrastaic drivers classic sequence general, dust suppression,emission control flameproof,boiler inspection repair inspection vrsei unders pressure, maintence fault diagnosis compression refrigerator and air conditioning ventilation system steam pipes water traps ,steel rope inspection application type,

10.2 DHET, qcto scope, saqa sasseta.
Outcome,
-10.2.1PURPOSE: engineering science, module completed, algebraic linear basic foindamental system process fabric learner engineering science , theory theorem fundamental research,step task
Learner lesson plan lecture plan mapping investigation analyse input out put subject module assessment

f=ma+mg, v=u+at, p=wx.t, Fu= ft, heat = m.a .cxt , equation algebraic linearing exponent , Ax + by=o,,ax.ax b.b y=,,
-fa.a +F.b.b , fa.a+FB.b=c.c(x+a) exp .n
Subject Engineering electrical applied
---mathematics ,(1+x) exp n=1,--+ Engineering science g= ma + mg , v=u+at, p=w.t , Fu= f/t, heat = m a.x .c t2-t#,
Engineering draw .. orthographic orthopedagogic educare education,care function.
- industrial electronics, v= r.i , e= v+ r.i..theorem equation loop ,
Trade theory v= r.i, e= v+ r.i , // term 1,2,3,90 days, ///mark score point 100 mark,////inspect policy stolen excy//// recalculate error developm theory inventory motion low formula pedagogie fundamental engineering phenomenon low motion ,

Exchange policy investigation resolve framey regulatority engineering compliance crime vehicle ass license number low, step collationing crime information legal paray, crime source information identifying crime described crime analyse crime ,crime no protect over load identity module subject completed source and need ,design analyse feedback criminals trade theory safety .
-engineering safety engineering completed design creation components safety management prevention low warning protection device incidey hazay acciy ,sab sans regulatory low motion F= ma+mg// Engineering labour ,inspect labour Education levy coid works relation collection misconduct fault award ruling compensation frame accidt ,F>ma+mg,,/// engineering policy framework regulatority implentation legislation informed. Claim assess indentify claim avai procedure case f= ma+mg,, complain f>ma+mg,,
- test trade vs test dhet nated class question theory test ,
Test score mark subject, mathematics , engineering science, industrial elecy, electronical , total value test engineering y/ evidence low given explanation low low rules limited Lim n (1+1/n) exp n ,, Lim -b +- b+4ac/# a..,,Dy/DX= 4x+3/2x+2.. into..., F=g.ma.mb/br#, p=rl stregy module elast ,fa= FB,/// vc ,vr,r#,r3,r3 Kirchoff northon , //// evidence Poe s resonning comparison test value test improper integral ,test converge diverge limited More ,less Rieman ,we not also define the integral as the limit as Delta x for to o of the genersj limit goes to infiny how does bound it self ln (2+ x) in this case delta x still equals 5 / n but x I = an integi calculator give resuy,compare force low motion gravity attract,compare test two frequency,compare two load transmission value //// evidence low quotient evidence judgement entry low exhibition limited fract of low rule ,value add ,task requirements logic low value,operator task compare two value force operator mass gravitational limited sum,evidence low lineare limited factorisation,compare two task , , Engineering council.
- visa trade qualificay answer passport, investigation planning system undergo, mathematics, requirements test trade module limited derivation function ,integray function master number rewui factorisation, equation word ,,
-engineering science, engineering physics required test physic: module static kinematics mass force, gravitational heater power motion optique , strength material ,hydray
-,electro required , AC machine components resistor semie conduct insulator ,diode rectifier half electronics ,
E,,trade test require ,basic advance filling ,
Total faculty regularity, and irregularilarity extra classes.
.--1.2
Saqa labal supply Ras nominal 230 v AC sans , wiring is 732 code practice electrical wiring installay is residence ,guide for marking of insulated ,
- electrical machinery regulation learning objectives,sans portable tools , clause council , Framework, equipment ,metal work, sabs 767 earth leakage protect , wound transformer secondary unearth sabs 743 ,high frequency generator ,, switch marked clearly user to maintain in a serviceable conditions , chief inspector performance prescrib testing manufacture of electrical machinery, qualifications experience,earning

10.3. Purpose: dhet nationt trade n engineering electrical,, fundamental engineering level and License trade engineering electrical professional council ..
engineering electrical science engineering, mechanical engineering
engineering electrical ,

- compare low test methode two motion Hopkinson , indentify shunt machine or more system learner low evidence low , v = applied voltage output power GI =1.V1 generator ,input power of motor M = (I2) , I1+I2,
An ,n = efficient of machine output power,zm*= n (I2+I2).v= input power of G,out power of G = n x input , n,= √I1/I1+2, armature ,total loss generation, à losses irons for generation , n= (I1+I2)v- Pm/(I1+I2)V..,
E1=V-Ia.Ra,,E1/E2=$.N2/$1, Serie motor two motor load ,,E a ,E b, . mechanical couple, motion angulair velocity transitaire permanent current power lineare two system , grouped generation pilote ,two transformation load or more system , resistance,, enclosed area learner
Learner motion engineering trade
- phasor diagram total system complex wave transmit generator, fundamental results , maximum amplitude equation ration , learner,
- e1= Em.sin 2w.t, ,e2= k2.Em.sin 2.wt,,,e3=k3.Em.sin . 3 wt,, en =kn.Em.sin.wt,,,value wave algebraic sum fundamental and harmonic,,e=e2+e2+e3+....+en
=Em (sinwt+k2.sin2wt+k3.sin3 et...k sin wt ,, diagram connected balanced load 4 wire ,load is vector,z 1=Z2=Z3=Z3= z ,, Ena=Enb=Enc,,ENA= EP<o degree, I 2=ENA/Z2= EP,, ENB=Ep-120,,0I2,I3,,, ,,I 3,ENC/z,,,IN=I1+I2+I3=0,,
ENA=E2,/√3,, z= 15+j..impedance ohm . inductance,
-speed control calculation, E=V-Ia.Ra..N=V+Is.Ra/K.$ armature full load, ,
-electrical engineering advanced basic load system continue learning professional,
: sinus quantity voltage in form ,,U= u.o2.cis(wt) and current I=Io2 cos (wt+j),,
P=U.I= U.o2.cos(wt).Io2.cos(wt+j)
=U.o2.Io2.cos(wt).(wt+j)., U.2.Io cos(wt).(wt)..(wt.j)(wt.j).),,
P, sinusoidal wave,U1=U1.02.cos(wt+j1,,
Layout fresnel , V1=Vo2 .cos.(wt)..v2= vo.cos (wt-2p/3),,v3 = Vo# cos (wt-4p/3),, derivation integration sinus wave phase shift instaneouse average P= p,1/T.iny TD.pd energy effective recovery work heater,power reactive apparent , Q= u.i.sinj,,car,,Q= o.s2-p3,vectorial, inductance, process give voltage node distribution,, I1=j2-j3, I1,I3,I2,,j #,j2,,,I2=j3-j2,,I3=j2+j2,, ok,,balance sinus 3 phase network ,P= P1+P2+P3,, P= v I1+v2.i2+v3.i3
Power factor active reactive apparent, P=u.i= p+jq

P1.=v.i.(cosj+cos(2wt+j))..
P2=v.(cosj+cos(2wt+j-4p/3)
P3=v.i(cosj+cos(2wt+j-8p/3)
P=<p>=<p@+p2+p+3=<p1>+<p2><P3><,P=3.v.i cos j6.(s) Fresnel,,single phase practical load transfo area , synchronouse motor inte Maxwell Stoke magnetic volume toruf reluctance Kapp hypothesis manufacture motor ,e= NDT/St,, m= cmh
. operationel balance,ms ,loss ,Lenz low,

Low rules assessment is rules,
1/z = ,1/r= impedance resistance alternating ,1/g conductance,1/g,,1/l,1/c ,, sirmence conductor , low Assessment reaction magnetic load learning relation resistance system became impedance or impedance become reactance parallel load resonance systeme load charging, discharge , QC , system stability learning assessment, magnetic demanetismloe, rules engineering compare ,loop,,triangle delta Serie parallel, effect phenomenon
P

, practical work measure: , single phase transformer magnetic excitation field magny , vector denote H created moving electrical charge,Amper H= rot H,=<j Maxwell relation of Stokes integra countiur ,into A.dl= .into.iny rot A.ds,,into c HDL= into.int .d.s magnetic medium, vacuum herin,, B= u.oH,,uo=4.o.10 exp -7, Hm-@,,B=u.o excited,H=B/u°, dimension M and relation, reluctance magnetic, direction flux ..int c.H.dl=into.int.int j.dd=Ni=HL,,denote,€=N.I= into .CDL= into contour , magnetic ,,€=S+N.I = A., N.i=(l-e).B/u,, ferromagnetic to H=o permanent Curie,u+e=r.i , u =Ndj/dt from ,converter equation N@.I2+N3,in primary r@=o,u@=-e=N#.dj/dt, ,i2/I#, perfect tfo=P#=P2.A#,,U#=Z2.I#..complex ,energy balance active ,, power in out speed characteristics,e (I), u= nominal, I: ,,loss= r.i.i+r.ie,p2.j.u,,U=E+R tot , ,
- AC machine engineering creation of rotation fields a magnetic in space at angular rotation w at le blanc theorem a coil of ax by current ,I(t)=i.2.cos (w.t),, i.2.cos (w.t) create a magnetic excitation field ,m .H.H (t), m = complex from I(t).H. , velocity H.H. constant (t) angular velocity cos(w), Ferraris theorem create rotation winding , I1(I).1.2.3,,i2(t),H#,H3,H,3,,2 cos() 1.2 cos () 1t= Uwcos()1+,spaced regularly three could sinusoidal curen w balancing speed, speed synchronouse, bipolar,speed demonstrate Ms=60 rotate 300 rpm ,1
-operator power balance engine, P= r.i,,P= 3.u.i,,
P=3.u.i.cos.j+u.i.u.s.u. ,.p=w.G,,
P=wG+u
I.P.3.U.U.cosj.u, iron loss mecanicak ,3 phase balance,, principle operationel,
-F= into.iny .B.ds Lenz low, variation flux , E=j.f(w-w).e(ws-w).. Laplace force actions magnetic current ,DF=idlr.urB,electromotive force ,,e=DF/St,torque ,P= C.ms,,D's,,do=w.dw,, maximum power , dw.dp.
-low Faraday speed conductor,EMF,E= B.l.v , low la place f.em = B.I.l,, v- ,,pem = fem x = Bxl.l.E/b.l=E.I electromechanic batteries load resisu in magnetic field,,
-leroy design plate number
,sum asyny motor trade type
Type 90.l3,834030 IPP, cos 0,82, AV 220 A,7,5,,,Ks 1,8 Rd 79 yv 380 A, r/ Min 1410 ,is class F ,Amb C degree 40,
mark of motor ,type 90 LS,
LS : letter of the series, 90 = heigh axe ,stand 56, to 100
Number of Serie : 834039,
protection indices : IP 44, 4 protection body solide more 1 m, protection out delivery motor 1,8kw,power factor (0,82) reaction,V = 230 delta ,star current 7,5 efficient 79% level speed rotation vrm , S 2 service in S 1= 100%, S#, 60%, class insulator (A104 degree ,s = 80%, t max exploration 24 kg ,speed torque inerrie monimerric,,,
-charasteristics Puli g, fear reduce treil kR= 60, 0,85,,1450 Min , diameter of axe d=20mm effective treuul calcul pump MD.D/4 ..kg.m.m

Pe=Q.g.h/1000.n..w,w=Fxl,,F=M.g,,wur=M.g.g...w sex Put =wur/t,,loss mec,= c mec.nex,,CA.cc=JD/dt..E=B.l.v,,Fem=b.il,,,,- motor power apparently,,S=E.I.√3,,power active P=,,Q=√s.s-pp,,,...XC=E.E/Q,,c=1/2π.fxc,,Ng=ns-n,,,
-energie use / energy consup ,, efficient machine,w2/w1,,, efficy,= power use/ power consumption,,,,power motor = work/ Tim = force displacement/time,,
-peak - to- peak, 2 peak, maximum=0,5 .peak to peak,average ,0,637,maxm ,1,57,,RMS effective=0,0707, maximum 1,414 , averaged,..

-citcuit RLC loop,source e1(t)..
L.ddl/dt+Rdt/dt+1/c1=dv/dt..
-Engineering electrical : learning
motoring DC command power circuit start connection command start with star deltat ..
, Power fuse f,control transformation,contactor f over load km ,relay k, control button ,time ,motor optional accessories phase, fault relay,ammeter , start delta switch power circuit starting with start Delta switch note out put ,220,75 HP, 125 HP and protection, control transformer,K2,k2.k3, contactor , overload relay,control option accessories,phase operating on dual ,220/380v, 380/660, 440/760 connection y. Star connected reduced ,load restive torque,
Circuit breakers,n = operation time load constant load max, maximum temperature,time,time at rest max , maximum attend load loss cycle duration,time starting access,loss cycle, starting of electric break ,time sequence, Duty..
Development system

- advance power distribution system drawing note,
Provide electrical interlock with S1 breaker km1,class if S1, is open ,S1 control class unit mkm1 is close key interlock a show,provide kmb, f1a key interlock generator breaker GB,provide priority load shed control for feeder breakers in us,f1A switch gears provide interlock,GB to able operationel,when no priority load , provide diagram breakers switch gear with dti trip unit including zone selective interlock and arc flash reduced maintence, provide remote touche screen maitaunancd tip unit communication part ehernel gate variable,end arch flash ,,
- design fault value mms symmetrical,value,I= symetrical RMS current,IP= peak current,e=2,7,w=2pf,f= frequency,time,breaking rated maximum interrupted,150 kv,50!,500 mva rated ,
18kA at 15kv maximum, interruptions of 23kA, 18kax 1.30) at @1.5kv(15kv divided, vacuum interrupted,metal clad ,
IEEE ,
-Check capabilities, 13,8kv x/R=15, 13,8 kV,, primary transfo, 3750, 4,16 secondary,,4,16,, selected breake
System base z=3,75MVA/375MVA=0,01 Pu,,1%,,,
R=z/√x.x/R.R+1=1/√15+1=0,066%,,,X=x/R(R)=15x0,066=99%,,tfo stand 55,% impedance +-7,5,,
Transformer: full load. 31,000,no load,load losses, xR..x/RB,
- phase fault i3 phase = E/x,base current IB=3,75MVA/√3.4.16=0,52,,, system x/R,, I1/x=0,52/0064,, x
- line to ground i.o multiple fact short circuit duty is 8,6KA sym ,phase fault I@ ,,IlG=3(0,52)/0,055=9,9
- fault calculate check breaker application generator busbar system generated is 7,5MVA,4,16Kv,, 1040A full load IB= 1.04kA sub transient, xd' =11, x=0,11, gene x/ R, 1/X's=1/x+1/x+1/x=3/x,,1/RS=1/R+1/R+1/R,,=3/R,,xsb,,I b ASE phased,,3(1,04)/0,11=28,4 symetrical,E/x Amper ,system x/E of 30 short circuit duty ,,
- breaker type 50vcp,/ v max 4,76 kV at 29 kA max ki// 4,16kc per volt,,,,

. purpose.
wiring electrician ,wire way premise,
-network protection line , fuse , commutation,induction, network ,filtre, cable terminate motor ,,
Cable motor blonde for conductor heart join ,PVC wire copper ,insulator conductor PVC, colour ,control switch , .
Current assignment conductor p2= uxix h,,p2=uxlxcos,,l= m light conductor,A= section m,,z= conductivity ,coper z,Au increase decrease voltage ,zx increase impedance load conductor section across area conductor ,
, Commutation ,command synoptic system panel design panel order component panel,,
-program action ,switch interrupted,,logic circuit control diagram sequential,, algorithm,logigram control gate grafcett , algorithm initial start end , circuit principle ,power ,
-command electronics ac motor 3phase , rectifier, insulator 410 , ,,2000kw,4000v, 8poles,ECo=1800,loss heater, voltage supply rotor ,E=s.Rco=0,222×1800v=400v voltage out DC rectifier ,Ed= 2,35,,E=1,35×400=540v,current DC circuit intermediate ,I'd loss ..P r/Es=22800/540=422A,,IRM= IR=0,816Od=0,816×422=344A, form facty angle, amplitude wave, En = 2,35Et.cos π, En=-540v,=1,35×480cos π,,,,π=146,4 degree ,,,line current 480 V rectangular amplitude, 422,RMs,,I=0,816,I'd=0,816×422=344,, --- current transformer water ,RMS,,I2=480v/4160×344A=40A,,.,,
-Motor rotor 3000h ,4160,900r/m,60hz, pump connected voltage 4160v bogie open 1800v,transfo 3 phase connection insulator motor developed 800kw ,speed ,700r/Min ,, s=ns-n/ms=900-700/900=0,222, water ,110,
Design diagram:

Motor AC squirel power nominal of 25hp 1760/Min ,480v ,60hz, 18A cyclo convert ,200v,60hz,gate cycle ,VRM supply,Ea4=14,5HZ/60hzx480v=1160v,, efficient,= 14,5hz/60×1800 r/Min =435 r/Min,, voltage Crete order wave factor ,,max convert voltage , E a =1,35 E cos π, 54,5 degree..
- machine AC DC transformer open lab system game completed module workshop test practical didactic panel experimental
Rotor board 60 mm/, 8 tr,coil 1,5 mm,2 pole ,20 ,total slot shoss,,
test speed , power 100-240VAC, 50/60HZ, means vac / vdc0-65 v, IAC / iDC: 0-20A, speed ,0-400rpm ,40Hz ,0-600 rpm ,60hz ,rheostat rn4x250 ohnm ,80w condensatir 3×80 ,v rheostat ,simulator,,
-molding construction D: 900×700×930 mm, stator - rotor molding,
- expiremental voltage out +15 VCC,1 a protection short circuit 12 VC,24 VC, generator sequence amplitude 5 v Freq

,1 Hz to 1khz , generator variable logic true false , 30 v, tracking,fixe double charged, current
Audio signal,
- MOSFETs control motor Serie universal command,
Motor generator: principal 12 v,3000 rpm,1,2A, 3,2 cm charge sustract multiplexer,logic numerical ,4 and (2 input) and ,3 output ,12 and ,input,4 and (4 input) , 12 diode silicone, 8 resistance ,5icc, study ram random access memory flic flop , timer ,stockagr information pan el 4+4 buffer , 3 step scale registrar ,buffer ,8 bits , decoder of 4, to 10 line ,ram ,, 1024× 4 display hexadecimal analogic ,8 bit convertors,a 8 bit ,potent 10v source , bistable demultiplex ,4 flip ,compare ,4 cannot register,
- calcul arithmetic ,16 logic arithmetic, 16 logic ,4 bib ,comptor ,decoder EPROM,8 send led level ,lineare discret amplifier relay ,cablagr structure cabling, test execution system mesure network wi Fi transmission 54 MBS,16 DM ,,

Engineering therapeutic,multimeter ,3 and 4 ,voltage cc,400 MV,4 autorage, oscillator double ,automatic, ,

- energy balance 10 bar ,400 degree, super heat , generator 1500 kWh DW/dt,,o,5 conservation Δu=Q,,
m(u2-u1)+mg(z2-z1)+1/2.m(v2.v2-v1v1) kinetic , into dv ,pva entaphhy ,m(h2-h2)= Q, Δ H+ΔPE+ΔkE=W, w = into P.dv,,w = PAV.. = 1×10 exp 5 n/m (264-1,69).= 95kj/s, force derivation force conservation Vector F= grad vect .EP , S= sum Q1,
Energy balance thermodynamics, W= m(H2-H1), 1/3 mg(v2-v1/a,,=
T 1=100 degree ,P1= 1 barb,V1 = 1,69m,,,

Mechanical design process..

-calculation copper cm cubic concentrator sodium mol / DM cube ,,2c+ 4,l---Cu2I2+I2,,,I ,
Mineral composition ,mineral , formula,composition ,
LF
..

11. 2. Dhet vs saqa qct ,,
Practical work experience lab workshop,workplace industrial compG y trade Purpose machine manufacturers.

- Namenclature and nameplate information ,DC motor theory, disassembly and inspection,testing, armature, commutator,frames, ventilation and accesoir,motor assembly and final testing,on site troubleshooting,faillure analyse ,carbon,brushes c,current , density and performance, installation,startups d baseline information, operationel monitoring and maintancd motor and baseline installation data ,,how to read motor. Nameplate,motor storage , how to rewinding ,140step disassembly motor wipe off ,remove the motor take motor , tips namel nylon and polythane .magnet wire electric motor insulation papper, utility knife wire cutter ,flate blade screwddiy pliers,lint free cloth aorkglo e,

, Motor rewinding process, remove winding , remove insulation papper clean housing,burn out tenant of insulator, prepare new winding ,insert new insulation papper burn out of insulation,prepare new winding on a spool,insert new insulation,papper house the housing ,solder and insulate winding end , tie solder varnish wind reassembly motor test, analyse 3 phase ,3000,rpm magnetic field ,motor board ,motor inscription board ,motor nominal volty, nominal,of rotation,R +* frame1,5 ,calculation parameter new winding Diameter internal ,external .mm cylinder slot, package dimension of iron core ,measure length stator package IP 87mm,external diameter stator packy Dv =755mm number of stator gaps z=24,step calculation paramet,now measure dimenst of statorslot width of slot,b1=6,621mm,b2=8,5mm,heigy of stator slot,h=13,267mm,opening of stator slot Bo =2mm, height of slot neck a 1==0,641mm,toot width bz=3,984
Qu=π/B(b1.b1+b2.b2)+h/2(b1+b2)
e=Qu=πb.b/4+Hb..
-calculation number of poles= 60.f/ns=60.×50/300=1..speed, (2810),

-calculation poles step , T= π.S/2.p=3,14×75,5/2.1=118,53mm, pole step ,
-calculation poles surface, Qp= t.lp=11753.77=203211mm sa, calculate pole surface, heigh of lamel mm,type isolation ,papper lacaue,
Calculation the tooth length Hz= Hu+a@=B,#67+0,6712=@3,908m,,Hz - tooth length, Hu heigy of stator ,
- calculAtion height yoke stator , hj=1/2!Dv-D-2.hz)=1/2(128-75,5-2,13,908)=12342mm,hg heigh of the yoke,Dy external Disney,
Calculation the cross section of teeth of poles Qz = z.bz.iz/2.p=24.3981.80,04/2.#=38,237 cm Qz one tooth cross section,z number slot,bz width aualition of slot ,
Q4= π/8.(b1.b.#+b2)+h/2(b2+b2)=π/8(6,64) exp #+ (8,5)2+6,33/2(6,62+8,5)=93,4mm,
- calculate number of slots per pole an pole,aaq= z/2.pm= 24/2.1.3=4, number of slot per pole ,z= number of slot,
step in t = z / #.p=24/2.1=12, winding factor ,q 1 to 8, $ 2, $..
, Calculation of induction in teeth of stator ,Bz=Bzr , Qp/Az. Induction bzbzr induction in gao, calcul inductt yoke, bj ..Bzr.Ap/π .Qj =. 0,65.103.13/π.9.88=2,15T, induction stator yoke,bzr induction air gap, step calculation of magnetic flux pair poles ,d= Bzr .Q.p.10- exp 4/1.5 exp 7= o,oo427 e ,,
Flux magnetic per pole Webber,
- calcation of the numbers of turn phase W' = 0,22.uf.a./ d.f.e= 0,22.230./o,oo427.50.0,958=347,39, w calcul number turn , if phase voltage v , a number of parallels branch, flux magnetic,step calculation number of turn in site ,Su = 6.w/z = 6,247/27=62,75, 62 ,su calculation numby of turn fillings,
-calculation of cross section of the wire ,
wv=Qu.fu/su=93,4×0,34/62=0,512 mm,
wv cross secty of the wire Au= surface of slot, , dz=2.√wv/π..3.√0,512/3,14=0,807

1.Award degree diplomat:award degree diploma .1th,2th,3th,4th
NQF national qualifications frame work
NQF.,1,2,3,4,5,6,7,8 diplomat framework regulation documents bulletin subject
Documents Portofolio meeting sa saqa I'd standard criteria
Engineering electrical meeting in RDC leaving diploma bulletin, statement leaving .. instituts
Saqa exam award documents police criteria meeting
Documents, engineering n electrique
Purpose documents 24month
Working
Release :

Diploma certificate document submission high degree diploma
Consentence .consent purpose award degree diplomat certificate qualifications transcript subject meeting required
Requirements subject meeting .
2.Subject :no meeting diplomat national
Diploma national: n1,n2,n3,n4,n5,n6
Level 4, subject minum nated exam and trade test panel wiring
Documents Portofilio process nated
Isat process council
Nated exam :

,Statement resultat
Irregularilarity process final award degree diplomat .
School meeting qualifications process continues.
No meeting ..

Meeting school leavers
3. Outcomes national :

Requirements: task theory step input equation operation basic advance operationel mathematics system integration differential derivation fundamental low step system analyse system process fabrics investigate process device,
Δx.
DX/du=x exp (e expx+e/x)exp x

2, operationel equation input out system linear process force limited different fabric force , v.ra.

3 system equation input ration factories process force different Va vab
Task step system fundamental lineaire input force different x .v1=v2×t2/t1..DX/Dy

Subject. N.1,n6,. assessment task,mark allocation 310, content module. ,student week completed submit asssign, tools asssessor 100

Engineering practice 240 ,24 month cabling join fridge armature ,busbar safety db , building

On Thu, 09 Feb 2023, 10:44 TSHINGOMBEKB TSHITADI, <tshingombekb@gmail.com> wrote:
1.National qualification frame work .nqf6
. engineering n electrique and teacher NQF 7, education technology
Subject
1.2 .Purpose :statement resultat:
Assessment :
Credit 120 ,field ,originator sgb,
Framework:
Criterion minum require scop maximum
Tools asssessment:
Entry award degree diploma originator ispt Kinshasa exeta it kitomesa inpp dr Congo math info unikin. No meeting / St peace college n engineering saqa ,
.. pursope engineering nqf evaluation
1.3.Tools assessment. Award diploma n
Assessment entry exhibition

Statement

Policy saqa
2.1.National diploma nated trade
Credit 0,5 certificate
Statement entry n 1award degree diploma saqa framework
Module
Policy department n diplomat engineering n 1,2,3,4,5,6 certificate
Module topic Portofolio
Statement
Implementation exam learner
Module n engineering subject :
Module 1,2,3,4,5,6,7,8, submitted textbook .submitted exam papper exercise assignment assessment

Lecons topics
Scal marks analyse
Lecture output resulta assessment
St peace college: textbook note on line
Completed week

Examinator national papper ,
Statement resultat outcom nated

Panel wiring

3..Careers education department research scientist bono work.
0utcome
Discovery

Evidence low: difference reasoning test motion ,low required equation basic fundamentals operational plant mathematics integration differential derivation fund's .
Low task analysis system equation input output linear process force limited different integration, system fundamental experience.powersysyem electric shop precautions workshops electrical shop absolute, asssessor rubrics,
3.fault find and protected device device control sequence second low I stallation , components installer PVC ,conduct,metal conduit flexible low ,DEP low installation of equipment right tool ox clear safe verification installation,
4, investigation engineering electrical of the low task subject module ,
5, investigation fact in issue relevance admnise,
Investigation the function weighting of evidence function judge control of the jury market subject,,
6: analyse investigation design system requirements information required force engineering electrical subject module task operationel plant mathematics integration differential fundamental, Lineare.
7.

Investigation principle criminal low and substantive due process rules admiss and relevance basic engineering electrical.
8.investigation evidence: collection are recovering crime processing method scene documents organisation processing crime final result sketch.
9.admbistration communication skills assessment stress skill engineering,
Information manage system ,
Framework regulatority legislation mandatory engineering power arrested civil implementation, delivery report anual engineering electrical l,
10.
Training security skill development registered assessor admnise progr engineering safety keeping documents inspection and power inspecteur offence and penalite..
Up electrique the assignment .
Criteria questions,poor behaviour,suffice,advance, excellent
Low integration police security framework
11.verification sasseta.
Durie development low power systems shop tools precautions workshops low rated investigation tpm engineering maintenance fire arm integration in crime scenario police framework regulatority legislation OSHA.. occupation health low find fault and protection device control circuit sequence second low sans installation components fault spark insulator cable low electrotech installation of equipment right tools clear,low motion investigation challenge admnise Fail corporate equation

Criminal low substation die process rules admnitrade low informer situation account process determine profitable methods scenario organisation processing sketches,,..
Low supply safety power regulatority..
13..low council engineering and council trade occupation safety step task creation case study.
Low visa permit work council practice verification EIC CEi power systems electrique linear circuit lab DC power supply function work low stand size.motion low agreement,
14, trade association amendment trade operationel system integration foundamental step.input
Trae basic advance..
X work operationel factor empires product e exp x logarithmic activities x inconu add divided work exponential x inconu factor linear entry exhibition motion equation trade translate,electronic ,
Operationel engineering,
Test trade council engineering career.
15low examinator skill time table work permit admnitrade time ,time table week time allocation subject , assessment, assignment council trade mark allocation,permit content average 8working 6level 24subject,x work operationel x exp n products e logarithmic actually x work factory lineare derivative integration test low lineare x operatoire AC DC ciy assignment mark weeek ,week DX/Dy working labour allocation work step xEx logic n possibly competency rating evaluation licence Permit permit mark allocayweek.sabs statem.
ln, vab(va-vb)
Motion low service ln logarithmic voltage Va -vb operationel compare suply resistor R2,decide by sum resistor Serie R1+R2 plus voltage total step compare difference ial gradients DX DT linear impedance operationel compare logarithmic expontiak, resistance production z impedance over r step parallel operationel permit trade design gn control switch ways to reduce voltage and decreasevoltagrn,,,trade generation equation load cabling equation lineare transmission linear load lineare

TSHINGOMBEKB TSHITADI	Aug 26, 2023, 5:07 PM (8 days ago)

14.-calculation of cross section of the wire,
Q=Au.fu/Su=93,4×0,34/62=0,512mm,
qv= cross section of the wire ,Au= surface of slot,
- step calculation of thickness of wire
Calculation ,
dz =2.√q.v/π=3.√0,512/3,14=0,807 qv,cross section of the wire mm,+/2 range of results picked ,0,8 mm wire , measure length, connected reassembly motor 400V,380 v
-an experiment in transformer rewindy instructable,
- step1: material and tools,step2 dismantle the core , or assembly, step 3 unwind the old ,or wind the new, secondary step , determine the wire thickness step 5, test winding step 6, ..purpot of rewinding of done keep the transformer from buzzing any to seal it form ,envit the lamination hard y remove, measure volt,material blowtar ,hasourd small sharp chisel ,micrometre. Alancd , required enamel wire,coil from , transformer insulating, varnish,wind manufacture operation service, input
--data unit,L=1000,uH requirements,A=14,5 mm dimenst,A,B=2,95 mm, Dimension B,C=6,7 mm , D = 1,65,L=11,8mm,F=4,7mm,g=0,5mm,ur=200, relative, number of turn effective magnt,Are = 17,547 mm sq, effective core volut,be= 33,347 mm cub,peak lMind , y core I p = 0,800

-generator motor : examins generator performance characteristics load watt, measure real time full load kW = total amp× supply voly,1100 , reserved capacity=full load ,kw ×0,25 power generation full load kw reseu capacity,
-number of loops area of each m.m , magnetic fields ,time of rott s,EMF induce vol, $=2πNA.Bf.cos 2πf.t
$:EMF induct Val,
N: number of loop dimension area,m B magnet field ,f : rotation Freq,t: time rotat,
-crosse sectional area ,mm sq, total length of wire in coil my, resistance meter: ohm , voltat at rated cury (v) ,, power at rated current: ,.. power at rated ,,
-Generator stair rewinding,racord,GAZ turbine,steam turbine, generator, stator bar , mechanical, dynamic completed of generator of generay removal,stator wedges, and slot wall core event,inspected ,tested glaskey material confirmation material,connect ring installed Serie brozed induction ,
-gent alternator and turbine repair and maintenance powet generater house 14000m.m   ,80 ton over head crane ,condition power up to 373 MVA manufacture, Quality control,
-electrical powet generation minor ,
-design type generator stator or rotor overhaul of any design, modification of genery including,,
- rotor and insulation system up grade,rotor and start cooling system,rotor windings modification rotor and stator wedht180 , ,
-o. Site motor repair serviy.

to

Advance, engineering electrical: calculate voltage regulation of distribution line and transmission, introduction to voltage regulation ,voltage for 11kv,32,kV,33kv overall, permissible voltage regulator,voltat requirements size capacitor voltage ,regulation ,11 kv22kv,33 kV, over head line % voltage regulation,= (1,06×P×L×PF)/(LDF×RC×DF),P - total length of line from, power sending to power reducing to power, pF power factor ,RC regulation, RC regulation constant (KVA-KM) Per @%, drop ,RC= (KV× KV×10)/(Rcos$+xsin$),

Ldf= load distribution factor ,LdF= 2 for uniformly distributed load on feeder,LDF,2 if load is skewed towards the power transformer,

-LDF=1 to 2 load is skewed,DF= diversity factor in ..

- maximum voltage regulation at any point ,part of distribution sysy,/ urban area/suburbs/

Up to transfo /#,5//2,5

-up service 0,5.

-voltage regulation valued,voltay variation in 33 kV and 11 kV,feeder limit, A over 33kv(-) 13,5% to (+) 10%, up to 33 kV(-),,9,0 % to (+) ,6,0% low voltage (-) ,60% to (+) 6.0 ,in case is difficulties to achieve the desired voltage rural then 11,10. 433kv, distriby transfo ,place 11004kv,,

-required size of capacitor ,cos $,to cos $2, KVA= KVA 1(sin $-(cos$1/cos2)/x sin$,,optimum location of capacitor,L=[1-(kvar /2kvarl)×(2n-1))

L- distance in per unit a long the line from sub station varc size of capacitor bank , kvar,kvar loady of line n relative posiy capacitor bank,sub total..

-voltage rise due t capaciti installation % voltage rise= (Kvar (cap)×Lx)110×vx# kvar capacii var ,x- reactant per phase, L length of line mile,,,calculate ,% voltage regulation at trail and of following 11kv, distribution system, ,,

- system have acsR dog conductor,(A,6/4,72,G7,,
- current capacity of acsR conduct = #05 Amp, resistance = 0,3792, reactance, permissible limit of % voltat regulation at , load 1,5 km,load A 15000Kwh,,load B 18000 18 kW, load c 2000kwh,
- methoy distance base voltage,

Drop=((√3×(Rcos$+xzin$)×1)/ (No of conductor phase x1000))×length of line voltage,

-voltage drop at load A,- load cury at point ,A(I)= kW/1,732× volt × of,

- load cut at point A(I)=1500/1,732×11000×08=98 Amp,
- required no ,conductor 1 phase = 98/205=0,47,m=1 no,

Voltage drop at point ,A= (√3(Rcos$+sin$)×@, / No of conductor / phase x 1000)) length of line , voltage drop ,A= (@,73×(0,72×o,8+0,6)÷98/1×@00)/×1500)=57 volt,

Receing and voltage point ,A sending and volt ,voltat drop =voltage ,point A= sendy volt receitand volt) ×100, % voltat regulation at point A((11000-10943)/10943)=100=0,52%

Dhet ncv vs nated ..practical learning vs trading,, vs saqa construction electric engineering d,,
Engineering electrical workshop lab ,trade training .
-panel level ,construction electrician level 2,level 4 teacher perform occupation skill, perform safety relate function tools use tools equipment task, , fabrication and install support component task 5, commission decommissioned electrical system ,uses communication and mentoring technical, install service and maintain generated distribution service system, task ,install service and maint consumer supply service and metering equipment , install service mainta condition unitedruptibke power UPS's surge suppression,,renewable energy system , maintain high voltage,signalling communicay system ,heating system,driver, integration control system ,transformer, light,branch circuit,ligth control, cathodic protection, install service and maintenance motor and control starter , performance motor control,driver, single phase motor ,install DC motor, ,,
Engineering fabrication,,
Topic princles and techniques,topics marking datum .. fabrication components permission ,prepare learner outcom marking measure toolstopics citing ,,trade test lecture competency field , welding electrode ,2 mm,gauge,citing nozzle,extension grid g steel ,heavy duty ,
Department education:
Engineering fundamental manufacture eny technology,,OSHA safety code , power transmission mailing machine, training model belt driver gears ,couolinlo g nose side curing ,pulley, engineering, compression ,,final mark,,basic fire first aid ,, resource teaching ,,
Poe s practical exercise case studies, practical exercise daily practical exam,,,

Resource need for teaching ,, building infrastructure network,plant machinery, storeroom,tool room, lecture room, training area work,human resources lecture e,,,,,,, engineering systems,, mechanical electrical,control system

to
me

Dhet ncv nated lecture vs saqa subject electrical principle and practice NQF level 2,7 ,,covera basic electrical principle and practice field learn in electrique infrastructure construction ,electricity applied in practice theory components, identify solvr icass ,weight value topic , electrical and magnet theory,DC ,AC circuit, protection measure testing,circuit diagy drawing cabling , material components, exam policy get college, 100,, student recall ,atom conductor ,insulator,ponteni electromoy, flow resistance,energy formula ,batteries ,l,R,A,&,and T.R...RT,, sketch voltage wave amplitude, calcule resistance Serie parally,wiring diagram ,motor relay,draw concept ,circuit geszee,comole material electrical as copper insulator,material conducty,cord,db boxes,arrester ,thermostat,stove simmester ,radio control ,DC , practice each component,
Identify components used in distribution range overhead lines max 11000v,poles,strain , suspension insulator cored,conductor , ligthning transformer ,use distribution of electricity , cable
Teacher hour learn ,student understand,plan use of gain use of system, theoretical 40, practical, Poe's mathematics,,wire
- basic electrical syst,wire ways and low voltage cablt,electric machine,,electrical system construction,,,, workshop practic , ..

Learner continue professional basic home electricity , TLC College ,,cpd plumbing electrical,diplomat governance advance,,, asssessment, vs vocational vocational vs school trade
Vs qualification framework national
Assessment, license wireman apprenticeship trade test,, language 2 weeks work, 1 week language,3month ,years works plant engineering,

-Key learning .
Basic electrical source case, start ,star connected , I1= V1/ztotal<(-0),,I2=V2/z total <(-120°-0), I3= v3/Z total < (120 °-0),,
V12=v1-v2=(Vln<0°)-(vl<-120°)=√3vln<30°=√3 v.i<(phase V1+30°),
V2.3=v2-v3=(Vln<-120°)(Vln<120°)=v√3vlN<-90°=√3.v2<(phase v2+30°),
V3.1=v3-v1=(Vln<120°)-+(Vln<0°)
=√3.vln<150°= √3.v3<(phase v3+3o),
I1=I12-I3.1=I12-I@3<120,=√3I1.2,√3 , phase , I @2-30°)=<=√3.I23<(-120°-0),
I3= √3.I3.<(phast3.1-30°)=√4.I.<(120°-0)..
,,100x√3. ,,120° ,,
- close contour Faraday ΔxE=partial inte.B/integral partial t,,integral intcontour E.dl=- inte derive partial B / derive partial t .dt. ,Max ,,
Ddp,, ΔVBA= vb-vA= - integral b,r, vect E.dl-(-int a,r..vector E.dl,= integral ro,b .vector E.dl= into A.B E.dk,volt coulomb energy (H.t)

,, -Equivenlent electrical and hydraulic,,
Type/ hydraulic/ electrical//thermal,///mechanical
-pontial/ volume m cube/ charge q c ,heater j, momentum ,
-potential / pressure Pa=// potential v = j C,/// temperature R+k=j/kB/velocity v,m/s
-flux / vilumetre flow rate m cube second/ current I // a / /heat transfer rate Aj,/ forces
-flux density velocity v/ m / current density c/ m sq.s// heat flux Q"(w/m sa, stress , N/ m sq,,
-linear model / loseal low dv= π.r sa.ap/8n.,// Ohm j=£Δ€,A"=k.v.t,//Dashpot,
,Key learner
Energy ability work done= energy spent power p ,wath is meant ,do/ St , d= do/dt, d/ dt (m.v) solve equations,l Di/ St + RT = E° cos wt ,,dE.dt=0, demonstrate pendulum force , u= m.g.h ,, T = pa forcing ,t= et.ct and forcing functionalite ..total change in energy of system,Δu{Δq(v2-v1), Δu=.-I Δt. V - (I = Δa/Δt, total kinetic energy of system low conservation energy,kinetic energy=<, ivΔt>o, graduation energy,,

-Dhet ncv vs nated vs saqa vs quality body framework body insurance in government system
... development continue cpd professt
Electricity in building in civileork in municipality
Home house metering ligthning in road metropolitan detection intelligence